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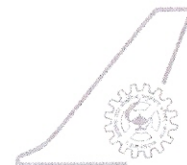
कांच माइक्रो बलून से आपूरित एपोकसी
कंपोजित पर प्रायोगिक अध्ययन
**Experimental Studies On Glass
Microballoon Filled Epoxy
Composites**

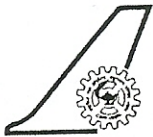
एल श्रीकांत, एम राजेन्द्र प्रकाश, वि एल सतीश, जी एन दयानन्दा
L SRIKANTH, M RAJENDRA PRAKASH, V L SATEESH,
G N DAYANANDA

सामाजिक मिशन एवं विशेष प्रौद्योगिकी केंद्र
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Council of Scientific & Industrial Research
राष्ट्रीय वांतरिक्ष प्रयोगशालाएं
National Aerospace Laboratories
बेंगलूर/Bangalore-560 017, भारत/India



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Title: Experimental studies on glass microballoon filled epoxy composites**Author/s:** L. Srikanth, M.Rajendra Prakash, V.L. Sateesh, G.N.Dayananda**Division :** CSMST **Project No:** --**Document No.:** PD CSMST 1105**Date of Issue :** January 2011**Contents:** Pages 15 Figures: 18 Tables: 7**External Participation:** NIL**Sponsor:** IN-HOUSE**Approval:** Head, CSMST  03/10.**Remarks:****Keywords:** filled epoxy composites, glass microballoon, syntactic foam

Abstract: Experimental investigations were carried out to understand the effect of glass micro balloon filler on the mechanical properties of epoxy resin system, that is currently being used as a bonding medium between the spar and the blade shell of a typical 300 kW Carter Wind Turbine Blade construction. Three kinds of mechanical tests viz. tensile, compression and lap shear tests were carried out on the neat resin (unfilled) and the filled epoxy castings. The filler content was maintained constant at 10% by wt. of the resin, for all the samples. The results showed that the glass microballoon filler did not enhance any of the mechanical properties of the matrix, on the contrary, resulted in their reduction. It was also observed that, the addition of relatively low density filler reduced the density of the resin system, resulting in weight reduction. Based on these limited studies, it was inferred that the microballoon filler addition was mainly to achieve reduced part weight, in the spar to blade adhesive joint of the 300 kW Carter Wind Turbine Blade.